Roy F Weston, Inc
Suite 5700
700 5th Avenue
Seattle, WA 98104-5057
206-521-7600 • Fax 206-521-7601
www rfweston com

MEMORANDUM

DATE: 21 December 1998

TO: David Bennett, WAM, U S. EPA, Region X

FROM: Michelle Turner, Chemist, WESTON, Seattle
Roger McGinnis, Senior Environmental Chemist, WESTON, Seattle

SUBJECT: Validation of Polychlorinated Biphenyls (Aroclor) Data
Laboratory Batch. K9805599
Site: Duwamish River

WORK ASSIGNMENT NO. 46-23-0JZZ

WORK ORDER NO : 4000-019-038-5200-00

DOC. CONTROL NO : 4000-019-038-AAAK

cc: Bruce Woods, RAP-WAM, U.S EPA, Region X
Dena Hughes, Site Manager, WESTON, Seattle (memo only)
Kevin Mundell-Jackson, Database Management, WESTON, Seattle

The quality assurance review of fourteen sediment samples, laboratory batch K9805599, collected from the Duwamish River has been completed. Samples were analyzed for polychlorinated biphenyls as Aroclors using EPA Method 8082 by Columbia Analytical Services of Kelso, Washington The samples were numbered

98344022	98344023	98344024	98344025	98344026
98344027	98344028	98344029	98344030	98344031
98344032	98344033	98344034	98344035	

Data Qualifications

The following comments refer to the laboratory performance in meeting the quality control criteria described in the technical specifications of the laboratory subcontract The review follows the format described in the *National Functional Guidelines for Organic Data Review* (EPA OSWER Directive 9240.1-05, February 1994)

1. Timeliness

   All samples met holding time criteria of 14 days for sample extraction and 40 additional days for extract analysis as specified in the Sampling and Analysis Plan

2 Initial Calibration

   a) Mixed Aroclor 1016/1260 Standard

      A six point initial calibration was performed. Calibration factors were calculated for a minimum of five peaks, none of which are common to both Aroclors. The calibration factor percent relative standard deviation (%RSD) was less than 20 percent for all peaks used for quantitation

   b) Individual Aroclor Standards

      Calibration factors were calculated from a mid-range standard for the other 5 Aroclors using 3 to 5 peaks

3. Calibration Verification

   Aroclor 1016/1260 calibration verification standards were analyzed every 12 hours using a midrange standard. The calibration factor percent difference was less than 25 percent of the initial calibration value.

4. Retention Time Windows

   Retention Time Windows were calculated from initial calibration. Retention times for calibration verification standards were within established windows

5. Detection Limits

   Instrument detection limits met project required quantitation limits

6 Blanks

   a) Laboratory Method Blanks

Laboratory method blank frequency criteria were met.

No target analytes were reported in laboratory method blanks.

b) Field Blanks

No field blanks were associated with this laboratory batch.

7. System Monitoring Compounds (Surrogates)

Surrogate compound percent recovery met quality control criteria (P-project, L-laboratory) for all samples except:

Sample	Surrogate Compound	Percent Recovery	QC Limits
98344030	Hexabromobiphenyl	23	30-150 (P) 20-142 (L)

Results and quantitation limits for samples listed above were qualified as estimated (J/UJ).

8 Matrix Spike and Matrix Spike Duplicate

All matrix spike (MS), matrix spike duplicate (MSD) and relative percent difference (RPD) results were within QC limits.

9. Laboratory Control Sample (LCS) Analysis

LCS recovery goals for Aroclors were established in the project Sampling and Analysis Plan at 70 to 130% for sediment. Based on conversations with the laboratory, historical control chart limits of 26 – 142 for Aroclor 1016 and 40-139 for Aroclor 1260 were also used for data qualification

All LCS percent recoveries met QC guidelines (P-project, L-laboratory) except for the following compounds·

Sample	Compound	Percent Recovery	QC Limits
K980827-LCS	Aroclor 1016	28	70-130 (P) 26-142 (L)
K980827-LCS	Aroclor 1260	46	70-130 (P) 40-139 (L)
K980828-LCS	Aroclor 1016	56	70-130 (P) 26-142 (L)
K980828-LCS	Aroclor 1260	67	70-130 (P) 40-139 (L)

Results for compounds listed above were qualified as estimated (J) Undetected results were also qualified as estimated (UJ).

10 Field Duplicate Analysis

No field duplicates were associated with this sample delivery group.

11. Second Column Confirmation

The relative percent difference (RPD) in reported analyte concentration was less than 35 percent for the primary and confirmation column for all samples with the following exceptions:

Sample Number	Compound	DB-5 Conc (ug/Kg)	DB-1701 Conc. (ug/Kg)	RPD
98344023	Aroclor 1242	83 7	54 7	42
98344027	Aroclor 1242	59 5	40 7	38
98344028	Aroclor 1242	277	194	35

Differences can arise from analytical interferences on one column. However, the RPDs are not deemed significant at the reported concentrations. The lower concentration was reported for each analyte, unless interferences or coelution prevented use of the lower concentration.

12. Sample Analysis

A cursory review of raw data was performed All laboratory deliverables were present and complete. Duplicate analyses were performed for samples 98344023 and 98344029 All RPD values for both samples were less than 35 percent

13. Laboratory Contact

No laboratory contact was required

Data Assessment

Upon consideration of the data qualifications noted above, the data are ACCEPTABLE for use except where flagged with data qualifiers that modify the usefulness of the individual values

Data Qualifiers

U - The compound was analyzed for, but was not detected.

UJ - The compound was analyzed for, but was not detected. The associated quantitation limit is an estimate because quality control criteria were not met.

J - The analyte was positively identified, but the associated numerical value is an estimated quantity because quality control criteria were not met or because concentrations reported are less then CRDL or lowest calibration standard.

R - Quality control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification

N - Presumptive evidence of presence of material (tentative identification).

I - Elevated reporting limit due to matrix interference.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344029	Units	ug/Kg (ppb)
Lab Code	K9805599-001	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/27/98	9/6/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1248	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/27/98	9/6/98	57	
Aroclor 1260	EPA 3550B	8082	20	1	8/27/98	9/6/98	45	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344030	Units	ug/Kg (ppb)
Lab Code	K9805599-002	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/27/98	9/6/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1248	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/27/98	9/6/98	40	J
Aroclor 1260	EPA 3550B	8082	20	1	8/27/98	9/6/98	45	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344031	Units	ug/Kg (ppb)
Lab Code	K9805599-003	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result		Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	UJ	
Aroclor 1221	EPA 3550B	8082	40	1	8/27/98	9/6/98	ND		
Aroclor 1232	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND		
Aroclor 1242	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND		
Aroclor 1248	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND		
Aroclor 1254	EPA 3550B	8082	20	1	8/27/98	9/6/98	42		
Aroclor 1260	EPA 3550B	8082	20	1	8/27/98	9/6/98	45	J	

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Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344032	Units	ug/Kg (ppb)
Lab Code	K9805599-004	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/27/98	9/6/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1248	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/27/98	9/6/98	68	
Aroclor 1260	EPA 3550B	8082	20	1	8/27/98	9/6/98	77	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344033	Units	ug/Kg (ppb)
Lab Code	K9805599-005	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/27/98	9/6/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1248	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/27/98	9/6/98	36	
Aroclor 1260	EPA 3550B	8082	20	1	8/27/98	9/6/98	41	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344034	Units	ug/Kg (ppb)
Lab Code	K9805599-006	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/27/98	9/6/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1248	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/27/98	9/6/98	32	
Aroclor 1260	EPA 3550B	8082	20	1	8/27/98	9/6/98	45	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344035	Units	ug/Kg (ppb)
Lab Code	K9805599-007	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/27/98	9/6/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1248	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	
Aroclor 1260	EPA 3550B	8082	20	1	8/27/98	9/6/98	ND	UJ

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Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344022	Units	ug/Kg (ppb)
Lab Code	K9805599-008	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/28/98	9/15/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1248	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/28/98	9/15/98	81	
Aroclor 1260	EPA 3550B	8082	20	1	8/28/98	9/15/98	87	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344023	Units	ug/Kg (ppb)
Lab Code	K9805599-009	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/28/98	9/15/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/28/98	9/15/98	55	
Aroclor 1248	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/28/98	9/15/98	139	
Aroclor 1260	EPA 3550B	8082	20	1	8/28/98	9/15/98	121	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344024	Units	ug/Kg (ppb)
Lab Code	K9805599-010	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/28/98	9/15/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1248	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/28/98	9/15/98	89	
Aroclor 1260	EPA 3550B	8082	20	1	8/28/98	9/15/98	84	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344025	Units	ug/Kg (ppb)
Lab Code	K9805599-011	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/28/98	9/15/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/28/98	9/15/98	90	
Aroclor 1248	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/28/98	9/15/98	192	
Aroclor 1260	EPA 3550B	8082	20	1	8/28/98	9/15/98	146	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344026	Units	ug/Kg (ppb)
Lab Code	K9805599-012	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/28/98	9/15/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/28/98	9/15/98	92	
Aroclor 1248	EPA 3550B	8082	20	1	8/28/98	9/15/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/28/98	9/15/98	164	
Aroclor 1260	EPA 3550B	8082	20	1	8/28/98	9/15/98	142	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344027	Units	ug/Kg (ppb)
Lab Code	K9805599-013	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/28/98	9/16/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/28/98	9/16/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/28/98	9/16/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/28/98	9/16/98	41	
Aroclor 1248	EPA 3550B	8082	20	1	8/28/98	9/16/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/28/98	9/16/98	88	
Aroclor 1260	EPA 3550B	8082	20	1	8/28/98	9/16/98	81	J

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	8/18/98
Sample Matrix:	Sediment	**Date Received:**	8/19/98

Polychlorinated Biphenyls (PCBs)

Sample Name	98344028	Units	ug/Kg (ppb)
Lab Code	K9805599-014	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/28/98	9/16/98	ND	UJ
Aroclor 1221	EPA 3550B	8082	40	1	8/28/98	9/16/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/28/98	9/16/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/28/98	9/16/98	194	
Aroclor 1248	EPA 3550B	8082	20	1	8/28/98	9/16/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/28/98	9/16/98	593	
Aroclor 1260	EPA 3550B	8082	20	1	8/28/98	9/16/98	750	J

MQT 12/8/98

Approved By _____ Date 9/18/98

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Roy F Weston, Inc	**Service Request:**	K9805599
Project:	Duwamish River/4000-027-001-2019-38	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name	Method Blank	Units	ug/Kg (ppb)
Lab Code	K980827-MB	Basis	Dry
Test Notes			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550B	8082	20	1	8/27/98	9/5/98	ND	
Aroclor 1221	EPA 3550B	8082	40	1	8/27/98	9/5/98	ND	
Aroclor 1232	EPA 3550B	8082	20	1	8/27/98	9/5/98	ND	
Aroclor 1242	EPA 3550B	8082	20	1	8/27/98	9/5/98	ND	
Aroclor 1248	EPA 3550B	8082	20	1	8/27/98	9/5/98	ND	
Aroclor 1254	EPA 3550B	8082	20	1	8/27/98	9/5/98	ND	
Aroclor 1260	EPA 3550B	8082	20	1	8/27/98	9/5/98	ND	

MGT 9/8/98

Approved By _____ Date 9/18/98

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